Check List the journal of biodiversity data
NOTES ON GEOGRAPHIC DISTRIBUTION

Erythrolamprus mossoroensis (Hoge & Lima Verde, 1973) (Serpentes, Dipsidae): updated distribution, range extension, and new state record from Paraíba, Brazil

Élida F. Silva[1], José Robério M. Barboza Júnior[2], Mateus L. Dutra[1], Vanessa N. Barbosa[3], Frederico G.R. França[4], Rafaela C. França[5,6]

1 *Programa de Pós-Graduação em Ecologia e Monitoramento Ambiental, Universidade Federal da Paraíba, Rio Tinto, PB, Brazil*
2 *Independent researcher, Areia, PB, Brazil*
3 *Programa de Pós-Graduação em Ciências Biológicas, Universidade Federal da Paraíba, João Pessoa, PB, Brazil*
4 *Departamento de Engenharia e Meio Ambiente, Centro de Ciências Aplicadas e Educação, Universidade Federal da Paraíba, Rio Tinto, PB, Brazil*
5 *Programa de Pós-Graduação em Biodiversidade, Universidade Federal da Paraíba, Areia, Brazil*
6 *Herpetology Section, Museum Koenig, Leibniz Institute for the Analysis of Biodiversity Change, Bonn, Germany*

Corresponding author: *Rafaela C. França (rafaela.candido.franca@gmail.com)*

Abstract. The distribution of *Erythrolamprus mossoroensis* (Hoge & Lima-Verde, 1973) is currently restricted to the states of Alagoas, Bahia, Ceará, Minas Gerais, Pernambuco, and Rio Grande do Norte in Brazil. Here, we report the first record of *E. mossoroensis* from the municipality of Areia, state of Paraíba, based on a juvenile specimen. This new record fills a gap in the known distribution of the species and extends its range in northeastern Brazil.

Key words. Caatinga, northeastern Brazil, Paraíba, snake, South America

Silva ÉF, Barboza Júnior JRM, Dutra ML, Barbosa VN, França FGR, França RC (2025) *Erythrolamprus mossoroensis* (Hoge & Lima Verde, 1973) (Serpentes, Dipsidae): updated distribution, range extension, and new state record from Paraíba, Brazil. Check List 21 (3): 565–568. https://doi.org/10.15560/21.3.565

INTRODUCTION

The genus *Erythrolamprus* Boie, 1826, comprises a group of snakes belonging to the family Dipsadidae and is widely distributed throughout the Neotropical region from southern Central America through the Caribbean islands to southern Argentina (Dixon 1989; Nogueira et al. 2019). The genus currently comprises 56 species, 24 of which occur in Brazil (Uetz 2025). Eight of these species occur in the Caatinga biome: *Erythrolamprus almadensis* (Wagler, 1824), *E. maryellenae* (Dixon, 1985), *E. miliaris* (Linnaeus, 1758), *E. viridis* (Günther, 1862), *E. poecilogyrus* (Wied-Neuwied, 1824), *E. reginae* (Linnaeus, 1758), *E. taeniogaster* (Jan, 1863) and *E. mossoroensis* (Hoge & Lima-Verde, 1973) (Nogueira et al. 2019).

Erythrolamprus mossoroensis was initially classified as a subspecies of *Liophis miliaris* (Linnaeus, 1758) but was later recognized as a distinct species by Hoge and Lima-Verde (1972). Following the revision of the genus *Liophis* Wagler, 1830 by Zaher et al. (2009), the species was reassigned to the genus *Erythrolamprus*, adopting its current taxonomic designation. *Erythrolamprus mossoroensis* differentiates from other species of the genus by a combination of characteristics: a dark dorsum with numerous light flecks or spots scattered throughout, along with irregular, medially broken dark lines across the venter at the anterior end of each ventral scale. The dorsum of juveniles exhibits dense light flecking on a brown to blackish background, while the venter is similar to that of adults. The species has 148–166 ventral scales and 45–56 subcaudal scales (Dixon 1983).

Erythrolamprus mossoroensis is a semi-aquatic species, active both during the day and at night, with a diet consisting of amphibians and fish (Marques et al. 2017). Endemic to Brazil, it is predominantly found in the Caatinga biome, as well as in marginal areas of the Cerrado and Atlantic Forest biomes, with distribution records in the states of Alagoas, Bahia, Ceará, Minas Gerais, Pernambuco, and Rio Grande do Norte (Nogueira et al. 2019; Guedes et al. 2023). Although the state of Paraíba encompasses a vast area of the Caatinga biome, where the species is most commonly found (Dixon 1983; Nogueira et al. 2019), and records from neighboring states suggested a possible occurrence in the state (Figure 1), no confirmed record had been documented for Paraíba. Therefore, we present the first confirmed record of *E. mossoroensis* from the state.

OPEN ACCESS

Academic editor: Cord Eversole
Received: 17 March 2025
Accepted: 8 May 2025
Published: 21 May 2025

Copyright © The authors. This is an open-access article distributed under terms of the Creative Commons Attribution License (Attribution 4.0 International – CC BY 4.0)

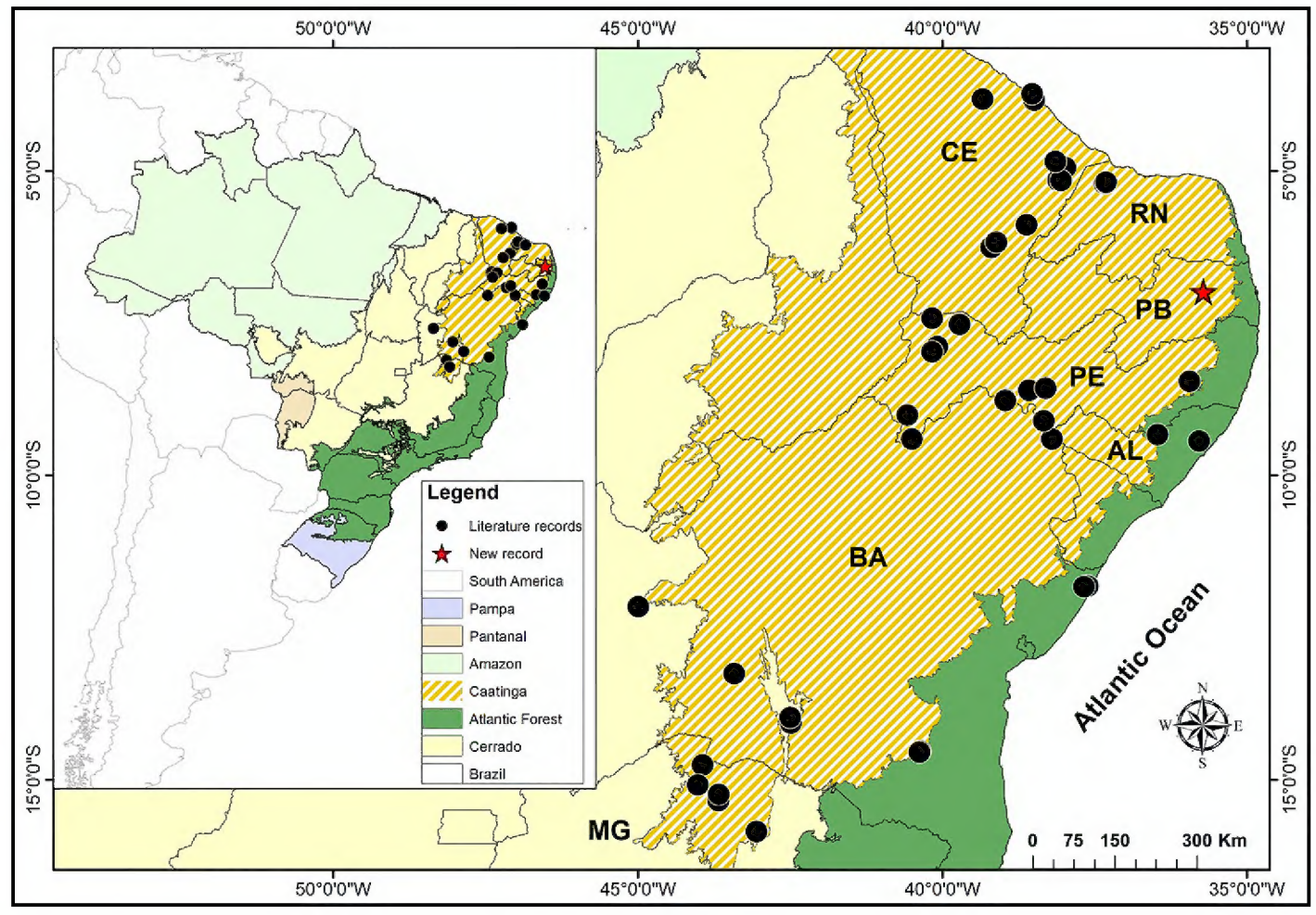

Figure 1. Distribution map of *Erythrolamprus mossoroensis* (black points) records. The red star indicates the new locality for the species. The state abbreviations include: AL: Alagoas, BA: Bahia, CE: Ceará, MG: Minas Gerais, PE: Pernambuco, PB: Paraíba and RN: Rio Grande do Norte.

METHODS

A juvenile female of *Erythrolamprus mossoroensis* was collected through an incidental encounter in an urban area of the municipality of Areia, Paraíba, Brazil. The individual was captured, and morphometry, sex, and meristic data were collected. The capture was carried out under SISBIO permit 21799-1. The morphometric measurements were taken using digital calipers with a precision of 0.01 mm. Afterward, the specimen was fixed in 10% formalin, preserved in 70% alcohol, and deposited in the Herpetological Collection of Universidade Federal da Paraíba (CHUFPB).

We reviewed the literature on the occurrences of *E. mossoroensis* in Brazil, and based on this review, we created an updated distribution map for the species using ArcGIS v. 10.8.2 (Figure 1).

RESULTS

***Erythrolamprus mossoroensis* (Hoge & Lima-Verde, 1973)**
Figure 2

New records. BRAZIL — Paraíba • Municipality of Areia; 06°58'44.1"S, 035°43'13.3" W; 31.I.2025; J.R.M. Barboza Júnior leg; found active on the pavement in a residential area at 06:30 h; 1 juvenile ♀, CHUFPB 31961.

Identification. The specimen (CHUFPB 31961) was identified following Dixon et al. (1989), based on the following diagnostic characters: dorsal scale row 17-17-15; 155 ventrals; 47 paired subcaudals; 8 supralabials; 10 infralabials; divided anal plate; and a dark-brown to black dorsum with many scattered white flecks. The edges of the ventrals and subcaudals are heavily marked with black from midbody to the tip of the tail (Figure 2). The specimen had snout–vent length of 184 mm, tail length of 38.61 mm, head length of 12.83 mm, head width of 5.71 mm, head height of 3.97 mm, body height of 5.17 mm, body width of 4.59 mm, ocular diameter of 2.89 mm, distance between nostrils of 2.82 mm, and body mass of 2.7 g.

DISCUSSION

Although the state of Paraíba has been extensively studied (Pereira-Filho et al. 2017), species continue to be newly discovered in the region, such as *Micrurus potyguara* Pires, da Silva Jr., Feitosa, Prudente, Pereira-Filho & Zaher, 2014, *Amerotyphlops arenensis* Graboski, Pereira-Filho, Silva, Costa Prudente & Zaher, 2015, and *Caaeteboia gaeli* Montingelli, Barbo, Pereira-Filho, Santana, Rodrigues-França, Grazziotin & Zaher, 2020. Currently, 71 species of snakes have been recorded from Paraíba (Guedes et al. 2023), and our record increases this number to 72. This find extends the distribution of *E. mossoroensis* by 269 km from the type locality in Mossoró, Rio Grande do Norte, and by 172 km from the nearest locality in Agrestina, Pernambuco.

Even though the individual of *E. mossoroensis* was found in the urban area of the municipality of Areia, it is important to note that the city is home to an important conservation unit: the Mata do Pau-Ferro State

Figure 2. Juvenile of *Erythrolamprus mossoroensis*, collected in the municipality of Areia, Paraíba, Brazil.

Park. Classified as a submontane seasonal semideciduous forest, also known as "brejos de altitude" or "brejos nordestinos", the park is located just 5 km from the center of Areia and is considered one of the largest fragments of brejo nordestino in the state, covering approximately 600 ha (Pôrto et al. 2004). In Mata do Pau-Ferro, 26 species of snakes have been recorded, including three species of the genus *Erythrolamprus* (*E. poecilogyrus*, *E. viridis*, and *E. miliaris*) (Pereira-Filho et al. 2017).

The discovery of new species and new state records suggests that more specimens may be found in the region, reinforcing the need for further surveys to expand knowledge of this and other species in the area. Moreover, the finding of *E. mossoroensis* in the urban area of Areia highlights the importance of including urban environments in biodiversity studies. These areas may harbor species adapted to modified conditions, and understanding their distribution and ecology is essential for both the conservation of fauna in fragmented landscapes and the minimization of conflicts between humans and wildlife (França et al. 2012; França and França 2019).

ACKNOWLEDGEMENTS

VNB and EFS thank the National Council for Scientific and Technological Development (CAPES) for master's scholarship and PhD scholarship (grant numbers 88887.713778/2022-00, 88887.022775/2024-00, and 88887.935257/2024-00). RCF thanks Paraíba State Research Foundation (FAPESQ) grant BLD-PDRP 09/2023 and Sandwich Postdoctoral Fellowship - Programa Paraíba sem Fronteiras 1637/2024. Finally, we thank the anonymous reviewers for their comments and suggestions to improve this manuscript.

ADDITIONAL INFORMATION

Conflict of interest

The authors declare that no competing interests exist.

Ethical statement

No ethical statement is reported.

Funding

No financial support was received for this study.

Author contributions

Investigation: JRMBJ. Vizualization: JRMBJ, RCF. Methodology: EFS, MLD, RCF, VNB, FGRF. Writing – review and editing: EFS, MLD, VNB, FGRF.

Author ORCID iDs
Élida Francisco da Silva https://orcid.org/0009-0003-0527-828X
José Robério de Moura Barboza Júnior https://orcid.org/0009-0009-5813-2106
Mateus Lima Dutra https://orcid.org/0009-0004-6303-6737
Vanessa do Nascimento Barbosa https://orcid.org/0000-0003-3131-7863
Frederico Gustavo Rodrigues França https://orcid.org/0000-0001-6989-2455
Rafaela Cândido de França https://orcid.org/0000-0001-5034-6796

Data availability

All data that support the findings of this study are available in the main text.

REFERENCES

Dixon JR (1983) Taxonomic Status of the South American Snakes *Liophis miliaris*, *L. amazonicus*, *L. chrysostomus*, *L. mossoroensis* and *L. purpurans* (Colubridae: Serpentes). Copeia 1983: 791–802. https://doi.org/10.2307/1444348

Dixon JR (1989) A key and checklist to the Neotropical snake genus *Liophis* with country lists and Maps. Smithsonian Herpetological Information Service 79:1–40.

França RC, França FGR (2019) Spatial patterns of snake diversity in an urban area of north-east Brazil. Herpetological Journal 29: 274–281.

França RC, Germano CES, França FGR (2012) Composition of a snake assemblage inhabiting an urbanized area in the Atlantic Forest of Paraíba State, Northeast Brazil. Biota Neotropica 12: 183–195. https://doi.org/10.1590/s1676-06032012000300019

Guedes TB, Entiauspe-neto OM, Costa HC (2023) Lista de répteis do Brasil: atualização de 2022. Herpetologia Brasileira 12: 56–161. https://doi.org/10.5281/zenodo.7829013

Hoge AR, Lima-Verde JS (1972) *Liophis mossoroensis* nov. sp. do Brasil [Serpentes: Colubridae]. Memórias do Instituto Butantan 36: 215–220.

Marques OAV, Eterovic A, Guedes TB, Sazima I (2017) Serpentes da Caatinga: guia ilustrado. Ponto A, Cotia, Brazil, 239 pp.

Nogueira CC, Argôlo AJS, Arzamendia V, Azevedo JA, Barbo FE, Bérnils RS, Bolochio BE, Borges-Martins M, Brasil-Godinho M, Braz H, Buononato MA, Cisneros-Heredia DF, Colli GR, Costa HC, Franco FL, Giraudo A, Gonzalez RC, Guedes T, Hoogmoed MS, Marques OAV, Montingelli GG, Passos P, Prudente ALC, Rivas GA, Sanchez PM, Serrano FC, Silva NJ, Strüssmann C, Vieira-Alencar JPS, Zaher H, Sawaya RJ, Martins M (2019) Atlas of Brazilian snakes: verified point-locality maps to mitigate the Wallacean Shortfall in a megadiverse snake fauna. South American Journal of Herpetology 14: S1–S274. https://doi.org/10.2994/sajh-d-19-00120.1

Pereira-Filho GA, Vieira WLS, Alves RRN, França FGR (2017) Serpentes da Paraíba: diversidade e conservação. Gentil Alves Pereira Filho, João Pessoa, Brazil, 316 pp.

Pôrto KC, Cabral JJP, Tabarelli M (2004) Brejos de altitude em Pernambuco e Paraíba: história natural, ecologia e conservação. Ministério do Meio Ambiente, Brasília, Brazil, 324 pp.

Utez P (2025) Species numbers (as of January 2025). The reptile database. http://www.reptile-database.org/db-info/SpeciesStat.html. Accessed on: 2025-2-13.

Zaher H, Grazziotin FG, Cadle JE, Murphy RW, de Moura-Leite JC, Bonatto SL (2009) Molecular phylogeny of advanced snakes (Serpentes, Caenophidia) with an emphasis on South American xenodontines: a revised classification and descriptions of new taxa. Papeis Avulsos de Zoologia 49: 115–153. https://doi.org/10.1590/s0031-10492009001100001